KNOWLEDGE, ATTITUDE AND PRACTICE ON CARDIOPULMONARY RESUSCITATION (CPR) AMONG CRITICAL CARE NURSES IN HOSPITAL UNIVERSITI SAINS MALAYSIA

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Dissertation submitted in partial fullfilment
of the requirements for the degree of
Bachelor in Nursing with Honours

August 2024

CERTIFICATE

I confirm that the dissertation titled " Knowledge, Attitude and Practice On Cardiopulmonary Resuscitation (CPR) Among Critical Care Nurses In Hospital Universiti Sains Malaysia" accurately reflects the research conducted by Muhamad Hafizuddin Bin Mughni under my supervision from October 2023 to August 2024. After reviewing the dissertation, I find it meets the necessary scholarly standards and is comprehensive in scope and quality for submission as part of the requirements for the Bachelor of Nursing.

DECLARATION

I affirm that this dissertation is the outcome of my own research, except where explicitly stated and appropriately credited. I also confirm that it has not been previously submitted for any other degrees at Universiti Sains Malaysia or elsewhere simultaneously. I authorize Universiti Sains Malaysia to utilize this dissertation for educational, research, and promotional purposes.

ACKNOWLEDGMENT

Firstly, I would like to express my heartfelt thanks to Allah for granting me the strength and guidance to successfully complete this dissertation.

I extend a special appreciation to my dedicated supervisor, Mdm. Norliza Hussin, whose invaluable time, unwavering support, and encouragement were instrumental in guiding me through every stage of this dissertation. Without her assistance and commitment, I would not have been able to accomplish this work.

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LIST OF ABBREVIATION

AHA	-	American Heart Association
BLS	-	Basic Life Support
CPR	-	Cardiopulmonary resuscitation
HUSM	-	Hospital Universiti Sains Malaysia
ICU	-	Intensive Care Unit
KAP	-	Knowledge, Attitude & Practice

KNOWLEDGE, ATTITUDE AND PRACTICE ON CARDIOPULMONARY RESUSCITATION (CPR) AMONG CRITICAL CARE NURSES IN HOSPITAL UNIVERSITI SAINS MALAYSIA

ABSTRACT

Cardiopulmonary resuscitation (CPR) is a critical intervention that can significantly impact patient outcomes in emergency situations. A cross-sectional study was conducted among critical care nurses at HUSM using a structured questionnaire. A total of n=125 critical care nurses participated in the study. The research location will be at 7 ward in Hospital Universiti Sains Malaysia (HUSM), which are 2 Delima, ICU Trauma, 4 Timur Depan, 1 Kristal, 2 Kristal, SICU and 1 Mutiara. These wards are the critical care ward in Hospital USM. This study was conducted using a self-administered questionnaire. Data were analyzed with descriptive frequencies and Chi-Square test by using Statistical Package Social Sciences (SPSS) version 27.0 software. Most of the participants in this study (n=75, 60%) have good knowledge on CPR, (n=78, 62.4%) have poor attitude on performing CPR and (n=104, 83.2%) have perform good practice on CPR. Age and Level of Knowledge, the chi-square test result ($\chi^2 = 33.685$, $p < 0.001$) indicates a significant association between the age of nurses and their level of knowledge. Age and Level of Attitude. The chi-square test result ($\chi^2 = 9.554$, $p = 0.023$) suggests a significant association between the age of nurses and their attitude towards CPR. Education Level and Level of Knowledge. The chi-square test result ($\chi^2 = 12.228$, $p = 0.002$) shows a significant association between the education level of nurses and their level of knowledge. Education Level and Level of Attitude. The chi-square test result ($\chi^2 = 16.332$, $p < 0.001$) indicates a significant association between the education level of nurses and their attitude towards CPR. Working Experience and Level of Knowledge. The chi-square test result ($\chi^2 = 22.609$, $p < 0.001$) suggests a significant association between the years of working experience in critical care and the level of knowledge.

PENGETAHUAN, SIKAP DAN PRAKTIS TERHADAP RESUSITASI KARDIOPULMONARI DALAM KALANGAN JURURAWAT PENJAGAAN KRITIKAL HOSPITAL UNIVERISITI SAINS MALAYSIA

ABSTRAK

Resusitasi Kardiopulmonari (CPR) adalah intervensi penting yang boleh memberi impak yang signifikan terhadap hasil pesakit dalam situasi kecemasan. Kajian rentas-seksyen telah dijalankan di kalangan jururawat penjagaan kritikal di HUSM menggunakan soal selidik berstruktur. Sebanyak n=125 jururawat penjagaan kritikal telah mengambil bahagian dalam kajian ini. Lokasi kajian adalah di 7 wad di Hospital Universiti Sains Malaysia (HUSM), iaitu 2 Delima, ICU Trauma, 4 Timur Depan, 1 Kristal, 2 Kristal, SICU, dan 1 Mutiara. Wad-wad ini adalah wad penjagaan kritikal di Hospital USM. Kajian ini dijalankan menggunakan soal selidik yang diisi sendiri. Data dianalisis menggunakan frekuensi deskriptif dan ujian Chi-Square dengan menggunakan perisian Statistical Package for Social Sciences (SPSS) versi 27.0. Kebanyakan peserta dalam kajian ini (n=75, 60%) mempunyai pengetahuan yang baik mengenai CPR, (n=78, 62.4%) mempunyai sikap yang kurang memuaskan dalam melaksanakan CPR dan (n=104, 83.2%) menunjukkan praktis yang baik dalam CPR. Umur dan Tahap Pengetahuan, keputusan ujian chi-square ($\chi^2 = 33.685$, $p < 0.001$) menunjukkan adanya hubungan yang signifikan antara umur jururawat dan tahap pengetahuan mereka. Umur dan Tahap Sikap, keputusan ujian chi-square ($\chi^2 = 9.554$, $p = 0.023$) mencadangkan adanya hubungan yang signifikan antara umur jururawat dan sikap mereka terhadap CPR. Tahap Pendidikan dan Tahap Pengetahuan, keputusan ujian chi-square ($\chi^2 = 12.228$, $p = 0.002$) menunjukkan adanya hubungan yang signifikan antara tahap pendidikan jururawat dan tahap pengetahuan mereka. Tahap Pendidikan dan Tahap Sikap, keputusan ujian chi-square ($\chi^2 = 16.332$, $p < 0.001$) menunjukkan adanya hubungan yang signifikan antara tahap pendidikan jururawat dan sikap mereka terhadap CPR. Pengalaman Kerja dan Tahap Pengetahuan,

keputusan ujian chi-square ($\chi^2 = 22.609$, $p < 0.001$) mencadangkan adanya hubungan yang signifikan antara tahun pengalaman kerja dalam penjagaan kritikal dan tahap pengetahuan.

CHAPTER 1

INTRODUCTION

1.1 Introduction

This study is used to determine the level of Knowledge, Attitude And Practice On Cardiopulmonary Resuscitation (CPR) Among Critical Care Nurses In Hospital Universiti Sains Malaysia (Hospital USM). The chapter starts with the background of study about knowledge, attitude and practice on cardiopulmonary resuscitation (CPR) among critical care nurses. It is then followed by problem statement, research question and hypothesis of the study. Finally, the significance of the study and operational definition of key terms described.

1.2 Background Of Study

Cardiopulmonary arrest is the rapid, total, and irreversible cessation of the vital respiratory and circulatory systems. keeping life alive. Cardiopulmonary resuscitation (CPR) is the most crucial emergency treatment for cardiac arrest, a condition that poses a risk to life. Research on resuscitation has long been an area of interest, and information on the subject has been periodically updated through the publication of guidelines by international organizations. CPR advancements have helped thousands of people who had sudden cardiac arrest live. The life saved by effective CPR attempts demonstrates the value of CPR and the time and effort expended to make advancements in CPR. Currently, the goal is to reach health criteria before to arrest as well as survival of individuals having cardiopulmonary arrest (N. Caliskan et al., 2019).

With an estimated 400,000 to 450,000 deaths each year (Zheng et al., 2001) confirmed that sudden cardiac death continues to be a significant clinical and public health problem. The importance of bystander CPR during an out-of-hospital cardiac arrest has been extensively

studied in the literature. Unfortunately, the literature also documents that it is performed with disappointing frequency (Swor, 2006).

It is crucial to evaluate Critical Care Nurses' level of CPR knowledge, their adherence to current recommendations and global algorithms, and the variables that influence their level of adherence. This will enable the identification of issues, the root causes of knowledge gaps and, if present, the failure to follow current guidelines, as well as recommendations for providing cutting-edge techniques and productive results in this area.

1.3 Problem Statement

The ability of nurses to effectively perform CPR is very crucial and it shows quality of care for Dangerous ill list (DIL) patient. Therefore, a comprehensive assessment of the existing knowledge, attitudes, and practices among critical care nurses is imperative and indicative of the overall quality of care provided within the institution.

The findings of this study are expected to shed light on the current state of CPR competency among critical care nurses, which is essential for ensuring that life-saving interventions are administered promptly and effectively. If the results reveal deficiencies in knowledge, inadequate attitudes, or suboptimal practices among these healthcare professionals, it may indicate a pressing need for targeted training and educational programs. Such interventions can help bridge the gaps in CPR competence, ultimately leading to improved patient outcomes and the delivery of high-quality care in the critical care units of Hospital Universiti Sains Malaysia.

1.4 Significance Of Study

The goal of this study is to determine the level of nurses' knowledge, attitude and practice on Cardiopulmonary Resuscitation (CPR) in critical care ward at HUSM. Therefore,

this study will be able to provide data of the level of nurses' knowledge, their attitudes and practice towards CPR in ICU. In addition, this study will also be able to identify the relationship between those domains which are knowledge, attitude & practice on CPR among critical care nurses. Thus, this research can be helpful in gaining insight how critical care nurses view the practice of CPR in their services. This study would also be able to highlight the need of training and education of critical care nurses in HUSM. In conclusion, the result of this study can help authorities to plan effective strategies for further increases awareness, emphasize the importance of proper CPR to the patient in the Critical care ward.

1.5 Research of Questions

1. What is the level of knowledge towards CPR among Critical Care Nurses in HUSM?
2. What is the level of attitude of Critical Care Nurses towards performing CPR in HUSM?
3. What is the level of practice toward CPR among Critical Care Nurses in HUSM?
4. Is there any association between knowledge, attitude, practice and sociodemographic characteristic (age, work experience, education level) of nurses and their level of regarding Cardiopulmonary Resuscitation in Hospital USM.

1.6 Research Objectives

1.6.1 General Objectives

To identify the level of knowledge, attitude & practice on Cardiopulmonary Resuscitation among critical care nurses in HUSM.

1.6.2 Specific Objectives

1. To assess the level of knowledge on CPR among Critical Care Nurses in HUSM
2. To assess the level of attitude on CPR among Critical Care Nurses in HUSM.
3. To assess the level of practice on CPR among Critical Care Nurses in HUSM.
4. To identify the association between level of knowledge, attitude, practice on CPR with sociodemographic characteristic (age, work experience, education level) of critical care nurses in Hospital USM.

1.7 Research Hypothesis

Null Hypothesis, HO

There is no association between sociodemographic characteristic (age, work experience, education level) of critical care nurses and their level of knowledge, attitude and practice regarding Cardiopulmonary Resuscitation in HUSM

Alternative Hypothesis, HA

There is significant association between sociodemographic characteristic (age, work experience, education level) of critical care nurses and their level of knowledge, attitude and practice regarding Cardiopulmonary Resuscitation in HUSM

1.8 Definition and Conceptual of Operational Terms

Definition for the operational terms used in this research proposal are as shown below:

Cardiopulmonary Resuscitation (CPR)	Cardiopulmonary arrest is the rapid, total, and irreversible cessation of the vital respiratory and circulatory systems. keeping life alive. Cardiopulmonary resuscitation (CPR) is the most crucial emergency treatment for cardiac arrest, a condition that poses a risk to life (N. Caliskan et al., 2019). In this study, to explore level of knowledge, attitude and practice among Critical Care Nurses (CCN) set of questionnaire will be distribute among them.
Knowledge	Being in cognitive contact with reality is a highly appreciated condition of knowledge. Therefore, it is a relation. A conscious subject is on one side of the relation, and on the other side is a part of reality that the knower is either directly or indirectly connected to. Although there are many degrees of directness, it is useful to think of knowledge of things as a direct sort of knowledge as opposed to information about things, which is indirect (L. Zagzebski, 2017). This study will assess level of knowledge on CPR among critical care Nurses in Hospital Universiti Sains Malaysia (USM) using a self-administered questionnaire adopted from Ihunaya et al., (2020).

Attitude	refers to the overall disposition and approach that individuals have toward a particular subject. It comprises a combination of cognitive, emotional, and behavioral elements that influence their stance, perception, and response (Ajzen, 2001) This study will assess level of attitude on CPR among critical care Nurses in Hospital Universiti Sains Malaysia (USM) using a self-administered questionnaire adopted from Ihunaya et al., (2020).
Practice	Practice, in a broader context, pertains to the application of knowledge and skills in a given domain. It involves the actions and behaviors individuals exhibit when dealing with situations or tasks related to that domain (Bandura, 1986). This study will assess level of practice on CPR among critical care Nurses in Hospital Universiti Sains Malaysia (USM) using a self-administered questionnaire adopted from Ihunaya et al., (2020).
Critical Care	specialized area of healthcare that focuses on the management of patients with severe or life-threatening medical conditions. It involves the continuous monitoring, intensive medical interventions, and a multidisciplinary approach to deliver high-quality care to critically ill patients (Vincent, J.L., 2013). Nurses from Critical care wards will be assess in this study

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

This chapter reviews the current literature related to Knowledge, Attitude And Practice(KAP) On Cardiopulmonary Resuscitation (CPR) among Critical Care Nurses and the Association between Sociodemogrphic with the KAP. Finally, this chapter will provide a detailed description of the conceptual framework chosen for the proposed study.

2.2 Cardiopulmonary Resuscitation (CPR)

CPR is a crucial emergency medical intervention designed to maintain circulation and oxygenation when an individual experiences cardiac arrest or ceases to breathe. It involves a combination of chest compressions, which facilitate blood circulation, and artificial ventilation to supply vital oxygen to the brain and other critical organs. Early initiation of CPR is paramount, as it significantly increases the chances of survival and minimizes the risk of severe brain damage (American Heart Association, 2020)

CPR is indicated in situations where an individual becomes unresponsive and ceases to breathe or breathes abnormally. The primary indication for CPR is cardiac arrest, which can occur due to diverse causes, including heart attacks, respiratory failure, trauma, and various medical emergencies. CPR is also administered when a person's heart rhythm is irregular and fails to respond to defibrillation (Link & Agarwal, 2020).

One of the most common scenarios where CPR is employed is drowning. Drowning is a life-threatening situation where an individual is submerged in water, at risk of asphyxiation due to a lack of oxygen. In these critical situations, the prompt initiation of CPR is of paramount importance. CPR aids in restoring normal breathing and circulation in drowning victims, significantly enhancing their chances of survival (Szpilman, Webber, & Quan, 2020).

2.3 Knowledge On Cardiopulmonary Resuscitation

Cardiopulmonary resuscitation (CPR) is a critical life-saving skill, and the level of knowledge among healthcare professionals, particularly nurses, plays a pivotal role in its effective implementation. research conducted in Europe has indicated varying levels of CPR knowledge among nurses. For example, a study in Sweden reported high levels of CPR knowledge and confidence among nurses, attributing this to rigorous training programs and regular updates in resuscitation guidelines (Svensson et al., 2014). Conversely, studies in other European countries, such as Italy and Greece, have identified gaps in CPR knowledge, emphasizing the need for continuous education and training initiatives (Brusamento et al., 2019; Papastavrou et al., 2019).

In Asia, the level of CPR knowledge among nurses has been a subject of investigation. Research in China has demonstrated a need for improved CPR education, with findings indicating suboptimal knowledge and confidence levels among nurses (Zhang et al., 2018). Similarly, studies in India have highlighted the necessity of enhancing CPR training programs to bridge knowledge gaps and improve nurses' preparedness for emergency situations (Gupta et al., 2017).

Good knowledge of CPR among nurses has several positive impacts. Well-trained nurses are more likely to initiate prompt and effective CPR, increasing the chances of successful resuscitation during cardiac emergencies. Conversely, poor knowledge of CPR among nurses can have detrimental effects. Inadequate training may result in hesitancy or incorrect application of resuscitation techniques, jeopardizing patient survival.

2.4 Attitude On Cardiopulmonary Resuscitation

Understanding nurses' attitudes is essential for tailoring training programs, improving outcomes, and fostering a positive culture around emergency response. Studies in Sweden have reported generally positive attitudes, with nurses expressing confidence in their ability to perform CPR effectively (Svensson et al., 2014). Conversely, research in Greece has identified

challenges in attitudes, citing factors such as fear, anxiety, and lack of confidence as barriers to effective CPR performance (Papastavrou et al., 2019).

In India, attitudes have been influenced by the availability of resources and training opportunities, highlighting the importance of infrastructure in shaping nurses' perceptions of CPR (Gupta et al., 2017).

Positive attitudes toward CPR among nurses can lead to better patient outcomes, increased survival rates, and improved overall resuscitation efforts. poor attitudes toward CPR among nurses may result in delayed or hesitant responses during emergencies. Fear, lack of confidence, or negative perceptions of the intervention may impede the effective initiation of CPR, potentially leading to poorer patient outcomes.

2.5 Association between sociodemographic and KAP toward CPR among nurses.

The KAP framework is widely used in health research to assess the knowledge, attitudes, and practices of individuals regarding specific health behaviors. In the context of CPR, this framework helps in understanding how well nurses are equipped with the necessary knowledge, their attitudes towards CPR, and how effectively they practice it. The literature indicates that sociodemographic factors such as age, education level, and years of experience significantly influence the KAP on CPR among critical care nurses.

Age is a significant factor that can influence the KAP on CPR. Research has shown mixed results regarding the impact of age on the proficiency and attitudes towards CPR among healthcare professionals. Studies suggest that younger nurses may have more up-to-date knowledge on CPR techniques due to more recent training (Oermann et al., 2011). Conversely, older nurses may have more practical experience, although their knowledge might be based on outdated guidelines. Attitudes towards CPR can be influenced by age, with older nurses possibly being more confident in their skills due to experience (Chung & Wiebe, 2010).

However, they might also be more resistant to new guidelines and training methods. The practice of CPR is influenced by both knowledge and attitude. Younger nurses may be more open to adopting new practices, while older nurses may rely on established techniques (Shrestha et al., 2016).

The level of education is another crucial factor impacting KAP on CPR. Nurses with higher education levels, such as those with bachelor's or master's degrees, tend to have a more comprehensive understanding of CPR guidelines and techniques (Gharibian et al., 2017). Continuous education and advanced degrees often emphasize evidence-based practices, leading to higher knowledge levels. Higher education levels are generally associated with positive attitudes towards ongoing learning and adherence to updated CPR protocols (Smith et al., 2018). Nurses with advanced education are more likely to recognize the importance of following the latest guidelines. Additionally, nurses with advanced education are often better at implementing best practices and are more proficient in performing CPR (Hayes et al., 2018). Their enhanced knowledge and positive attitudes contribute to more effective practice.

Working experience plays a pivotal role in shaping the KAP on CPR. While experienced nurses have a wealth of practical knowledge, they might need regular updates to stay current with evolving CPR guidelines (Anderson et al., 2019). Regular training sessions are crucial to ensure that experienced nurses' knowledge remains up-to-date. Experienced nurses often exhibit confidence in their CPR skills, which positively impacts their attitudes (Abdullah et al., 2015). However, overconfidence can sometimes lead to complacency, underscoring the need for periodic refresher courses. Practical experience is invaluable in CPR. Nurses with more years of experience tend to be more adept at performing CPR due to repeated exposure to real-life scenarios (Liaw et al., 2010). Nonetheless, consistent practice and training are essential to maintain high proficiency levels.

2.6 Theoretical and Conceptual Framework of Study

The Health Belief Model was developed in the 1950s by social psychologists Hochbaum, Rosenstock, and Kegels. It was initially designed to explain why people engage in preventive health behaviors, such as getting vaccinations or undergoing screenings. Over the years, the model has been widely adopted and adapted to explore a broad range of health-related behaviors, including emergency response actions like CPR.

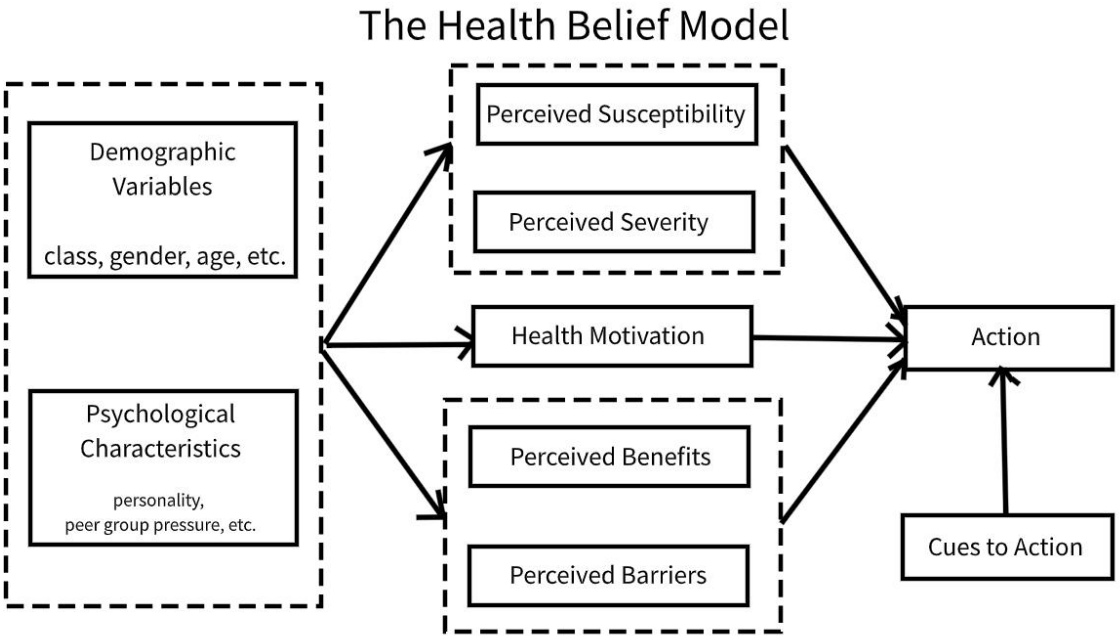


Figure 2.6.1: The Health Belief Model adopted from Hochbaum, Rosenstock, and Kegels, 1950

In the model, individuals' perceptions of their susceptibility to a health threat are crucial. For critical care nurses, this corresponds to their recognition of the potential occurrence of cardiac arrests among patients. The Health Belief Model suggests that individuals evaluate the severity of a health problem. In the context of the study, the severity of the problem corresponds to the potential life-threatening consequences of not administering effective CPR. The Health Belief Model also incorporates cues to action, which prompt individuals to take health-related measures. In the study, cues to action may include organizational policies, training programs,

or peer influence. The research will assess how these cues influence nurses' attitudes and practices regarding CPR.

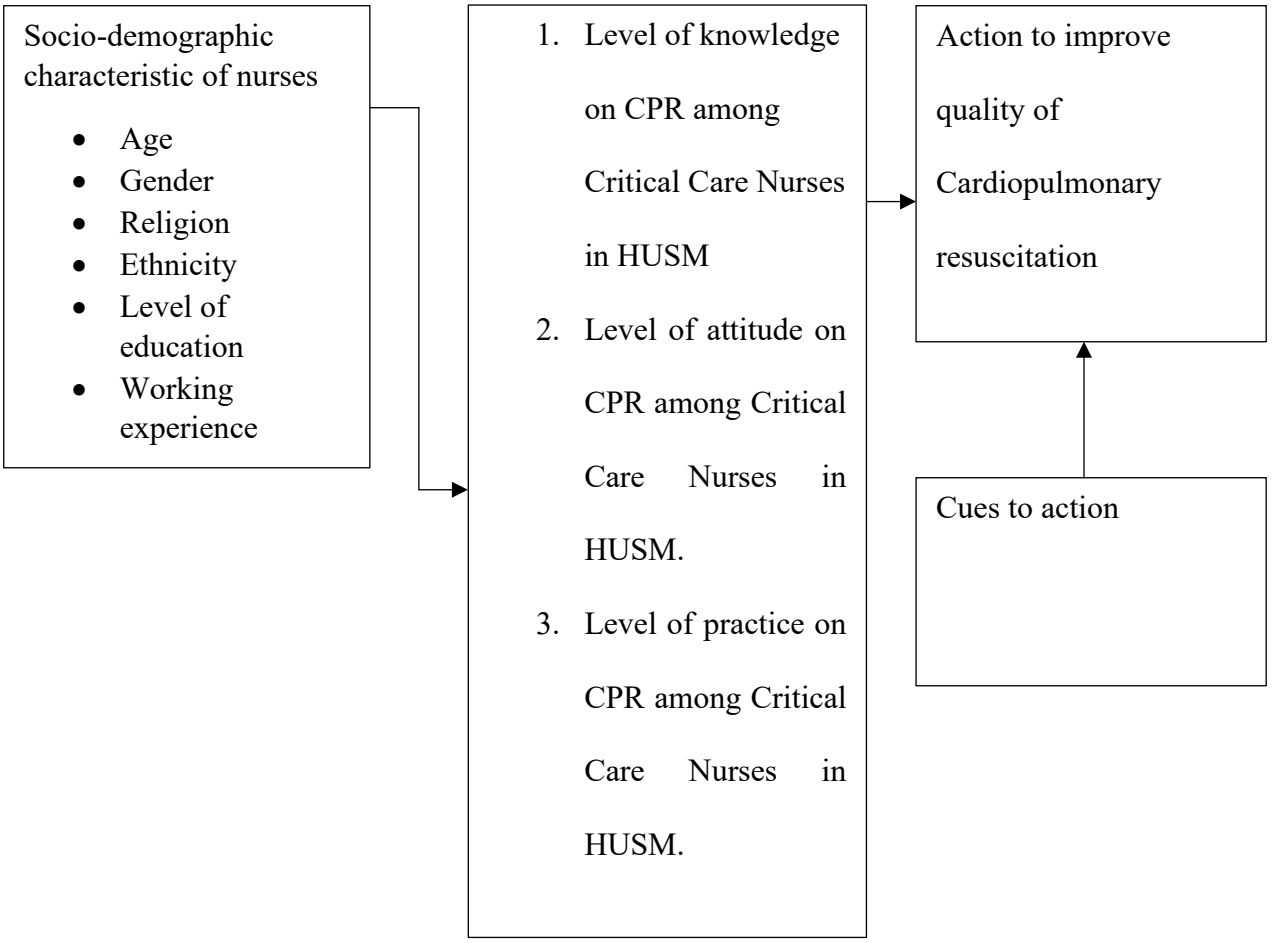


Figure 2.6.2: The Adapted Health Belief Model from Hochbaum, Rosenstock, and Kegels, 1950

CHAPTER 3

METHODOLOGY AND METHODS

3.1 Introduction

In this chapter, the researcher described the methodology and methods chosen in conducting the study in terms of research design, sample selection, data collection and data analysis. In addition, the researcher detailed ethical consideration of the study is listed as part of a requirement to the conduct this study.

3.2 Research design

This study use descriptive cross sectional study design to collect information from Critical Care Nurses regarding knowledge, attitude and practice of CPR in HUSM. reason to use a descriptive cross-sectional study is its ability to provide a broad overview of the diversity within the critical care nursing population. By examining various demographic factors alongside knowledge, attitudes, and practices related to CPR, this study can uncover patterns and differences that may influence CPR outcomes.

3.3 Population and setting

This study was conducted among Critical Care Nurses in HUSM which within the data collection period that fulfilling the inclusion and exclusion criteria. Refer to **Table 3.3.**

Table 3.3: Population of Critical Care Nurses In HUSM

Critical Care Unit	Total Nurse
1. 2 Delima	44
2. ICU Trauma	37
3. 4 Timur Depan	13
4. 1 & 2 Kristal	22
5. SICU	27
6. 1 Mutiara	45
TOTAL	**188**

3.4 Sampling Plan

3.4.1 Sampling inclusion and exclusion criteria

Inclusion Criteria

- Staff nurse in critical care ward
- Nurses who had experience with Cardiopulmonary Resuscitation
- Nurses who had Basic Life Support Certification (BLS)

Exclusion Criteria

- Nurses under maternity leave
- Less than 6 month working in Critical Care Ward

3.4.2 Sampling method

This study will use convenience sampling method for collection data on critical care unit.

3.4.3 Sampling size estimation

The total of critical care nurses in Hospital USM is 188 (refer to **Table 3.3**). The sample from the population was derived using Taro Yamane's simplified formula (from previous study Okwuikpo et al., 2020) to determine sample size.

$$n = \frac{N}{1 + N(e^2)}$$

Where:

- n is the sample size needed.
- Population size(*N)* is 188.
- Desired margin of error (e) is 0.05 (5%) (previous study Okwuikpo et al., 2020)

$$n = \frac{188}{1 + 188(0.05^2)}$$

$$n = \frac{188}{1 + 188(0.0025)}$$

$$n = \frac{188}{1 + 0.47}$$

$$n = \frac{188}{1.47}$$

$$n = 128.6$$

Rounding up to the nearest whole number (since can't have a fraction of a person):

Required Sample Size (n) = 129

Drop factor, 10% from 129

$$\text{Drop factor} = \frac{10}{100} \times 129$$

$$= 12.9$$

Rounding up to 10

sample size = 129 + 13 =142

The sample size for this research are 142 critical care nurses in HUSM.

3.5 Instrumentation

3.5.1 Instrument and Questionnaire

The questionnaire and scoring method were adopted from Okwuikpo et al., (2020).

Section A : Sociodemographic Data.

Consist of 3 questions, which are age, education level, working experience. For the education level, the respondent was asked to select the highest educational attainment from list of option.

Section B : Knowledge on Cardiopulmonary Resuscitation (CPR).

Contained twelve questions on knowledge of cardiopulmonary resuscitation, right answers had a weight of '2', while wrong answer had a weight of '1'. The maximum and minimum knowledge scores were 24 and 12 respectively, knowledge scores were categorized such that scores from 19-24 were grouped as "Good knowledge" while scores from 12-18 were grouped as "Poor knowledge".

Section 3 : Attitude on Cardiopulmonary Resuscitation (CPR).

Section C had 9 items that elicited responses on attitude towards cardiopulmonary resuscitation use five Likert scales to rate the items, with values ranging from 0.4=Strongly disagree to 2=Strongly agree. Attitude on CPR section was yielding an overall score ranged from 9 to 18 with high scores indicating positive attitude. Attitude scores were grouped such that scores from 14 to 18 were grouped as "Positive attitude" while scores from 9-13 were grouped as "Negative attitude".

Section 4 : Practice on Cardiopulmonary Resuscitation.

Had 9 items on practice of cardiopulmonary resuscitation, responses were weighed such that the right answer had a weight of '2', while wrong answer had a weight of '1'. The

maximum and minimum scores were 18 and 9 respectively. Scores from 14-18 were grouped as “good practice” while scores from 9-13 were grouped as “poor practice”.

3.5.2 Validity and Reliability

The questionnaire was adopted from three sets questionnaires, with two sets questionnaires were from American Heart Association in 2015. These questionnaires use Cronbach’s alpha value of 0.7 from pilot-tested among 22 nurses with no changes were made and the second questionnaire use face and content validity which were evaluated by the experts respectively. The third set questionnaire uses the correct cardiac arrest findings and algorithms of BLS that were determined from European Resuscitation Council (ERC) 2010 Resuscitation Guidelines. The researcher obtained permission to use the questionnaire prior starting the study.

3.6 Variables

The variable of the study was measured by using a self-administered questionnaire

Table 3.6: Independent and Dependent variables

Dependent Variable	• Knowledge, awareness and practice on CPR among Critical care nurses
Independent variable	• Sociodemographic factors(age, education level and working experience)

3.6.1 Measurement of Variables

Section A comprised of five items on participants’ socio demographic data which are age, educational level and working experience,

Section B contained twelve questions on knowledge of cardiopulmonary resuscitation, right answers had a weight of ‘2’, while wrong answer had a weight of ‘1’. The maximum and

minimum knowledge scores were 24 and 12 respectively, knowledge scores were categorized such that scores from 19-24 were grouped as “Good knowledge” while scores from 12-18 were grouped as “Poor knowledge”.

Knowledge	**Range**
Good knowledge	19-24
Poor knowledge	12-18

Section C had 9 items that elicited responses on attitude towards cardiopulmonary resuscitation use five Likert scales to rate the items, with values ranging from 0.4=Strongly disagree to 2=Strongly agree. Attitude on CPR section was yielding an overall score ranged from 9 to 18 with high scores indicating positive attitude. Attitude scores were grouped such that scores from 14-18 were grouped as “Positive attitude” while scores from 9-13 were grouped as “Negative attitude”. The score was categorized as below:

Attitude	**Score**
Positive	14-18
Negative	9-13

Section D had nine items on practice of cardiopulmonary resuscitation, responses were weighed such that the right answer had a weight of ‘1’, while wrong answer had a weight of ‘0’. The maximum and minimum scores were 18 and 9 respectively. Scores from 14 to 18 were grouped as “good practice” while scores from 9 - 13 were grouped as “poor practice”.

Practice	**Score**
Good practice	14-18
Poor practice	9-13

3.7 Ethical Consideration

The study was conducted after getting approval from the Human Research Ethics Committee of Universiti Sains Malaysia and hospital Universiti Sains Malaysia. The permission to use the original questionnaire had been approved by original author through email (Appendix B).

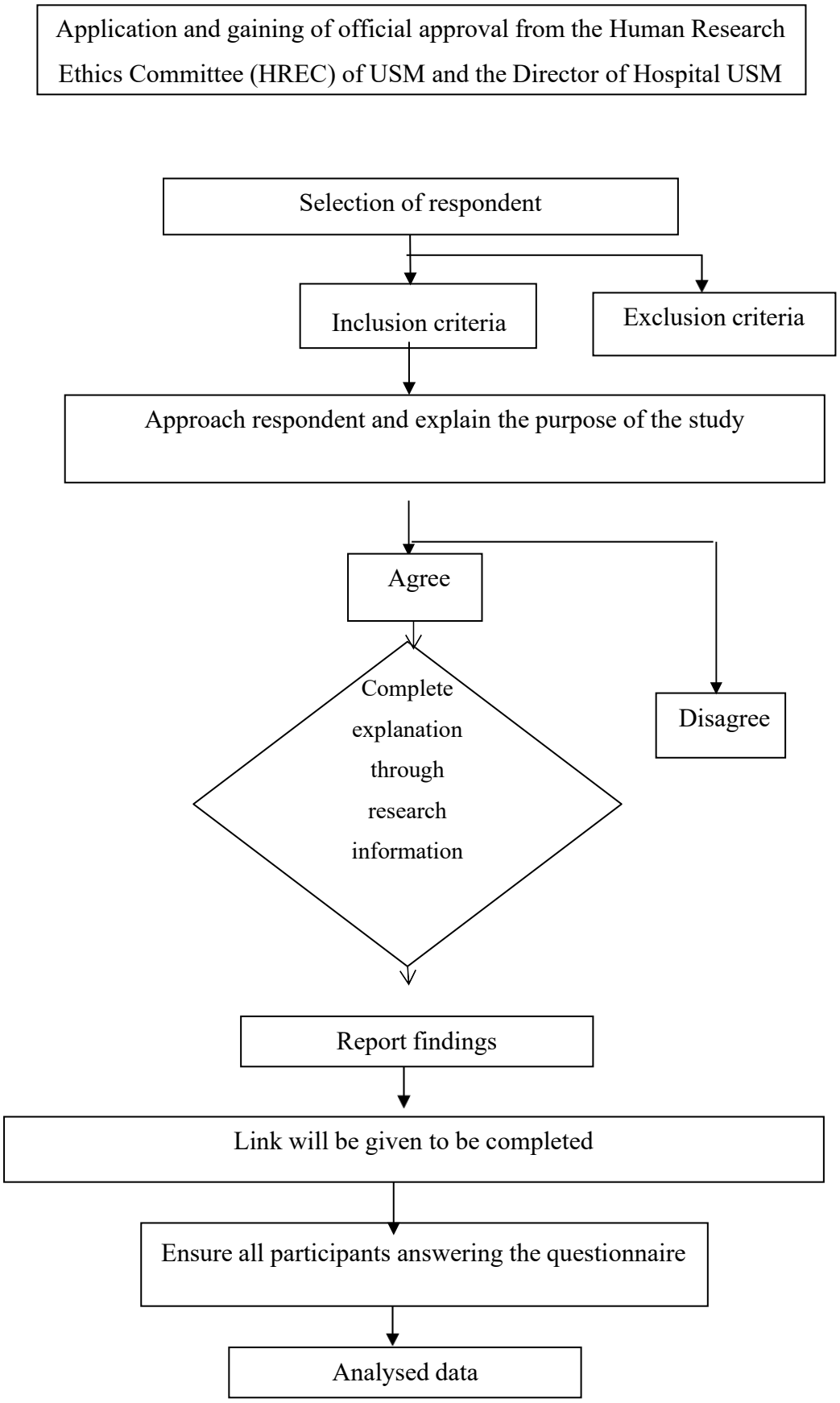
It upholds the rights of study participants and respects their decision-making autonomy, according to the ethical principles outlined in human research. Every participant will be asked for their informed consent. Each participant was given information on the scope and duties.

Prior to the data collection, they were informed of the study's purpose and the importance of their participation in it. Every participant will be made aware of their right to refuse or end the study at any time without suffering consequences, as well as their right to voluntary participation free from any influence, compulsion, or persuasion.

The responders are informed that in order to protect their privacy and confidentiality, their personal information will be kept anonymous and private. Only the researcher will have access to the data, which will only be used for academic purposes.

3.8 Data Collection Method

After receiving approval from Universiti Sains Malaysia to gather data, the researcher addresses sister of each critical care unit to ask for nurses participation. Participants will receive an explanation from the researchers about the purpose of the study and the data gathering process. If the nurses agree to take part, a link will be sent, and they must click it to complete the consent form before answering the questionnaire. Participants must also answer the questions truthfully. After 24 hours, the questionnaire was expected to be completed. Once completed, the questionnaire was collected, and the responses were verified for accuracy. The data collection process will adhere to the flowchart.


Application and gaining of official approval from the Human Research Ethics Committee (HREC) of USM and the Director of Hospital USM
Selection of respondent
Inclusion criteria
Exclusion criteria
Approach respondent and explain the purpose of the study
Agree
Disagree
Complete explanation through research information
Report findings
Link will be given to be completed
Ensure all participants answering the questionnaire
Analysed data

3.9 Data Analysis

The questionnaires retrieved were coded and analyzed using the computer assisted statistical software (SPSS Version 27). Descriptive statistics (frequency and percentages) were used to describe the demographic characteristics, knowledge, attitude and practice of cardiopulmonary resuscitation. Chi square test was used for inferential statistics at 0.05 level of significance. Data was presented in frequency distribution table for quick interpretation and understanding of the result obtained.

CHAPTER 4

RESULTS

4.1 Introduction

This chapter presents the results of the descriptive socio-demographic characteristics, level of knowledge, attitude and practice on cardiopulmonary resuscitation (CPR) among critical care nurses in Hospital Universiti Sains Malaysia and association between KAP and sociodemographic.

4.2 Descriptive Socio-Demographic Characteristics

A total 125 critical care nurses participate in this study. Majority participants are among 30-39 years old (n=51, 40.8%), education level Diploma (n=92, 73.6%) and working experience 6-15 years (n=48, 38.4) in critical care unit.

Table 4.2

S*ociodemographic data of respondents(n=125)*

Variable	**n**	**%**
Age,y		
20-29	42	33.6
30-39	51	40.8
40-49	29	23.2
50 and above	3	2.4
Educational Level		
Diploma	92	73.6
Degree	30	24.0
Master and above	3	2.4
Working experience (in Year)		
0-5	36	28.8
6-15	48	38.4
16-25	38	30.4
Above 25	3	2.4

4.3 Level of Knowledge on CPR among critical care nurses.

Table 4.3.1

Response on Knowledge on CPR among critical care nurses(n=125)

Items		Response, n (%)		
		Yes	No	I don't know
Cardiopulmonary Resuscitation Knowledge among participant				
1.	Have you received any training on cardiopulmonary resuscitation	125(100)	0	0
2.	CPR support and maintain breathing and circulation for an infant, child, or Adolescent	111(90)	12(10)	
3.	CPR should be done on every person in cardiac emergency	42(34)	75(75)	6(5)
4.	CPR training and retraining is necessary for nurses	113(90)	12(10)	0
5.	CPR should be conducted on patient immediately before informing the Doctor	65(52)	57(46)	3(2)
6.	The compression of ventilation ratio for the lone rescuer giving CPR to victims of any age is 20:1?	18(14.4)	98(78.4)	9(7.2)
7.	Chest compression during cardiopulmonary resuscitation stimulate 25% heart functioning	102(83)	3(2)	18(15)
8.	I take 25 seconds to check for pulse of an adult before commencing CPR	24(19)	87(70)	14(11)
9.	Chest compression should be 7 inches (10cm) deep for an adult during CPR	30(24)	95(76)	0
10.	Chest compression during CPR should be done at the center of the chest on lower half of the breast	116(92.8)	6(4.8)	3(2.4)
11.	The pulse of an adult with cardiac emergencies should be checked at the carotid artery	119(95)	0	6(5)
12.	Rescuer performing CPR should switch role after each cycle	86(69)	33(26)	6(5)

Table 4.3.2

Level of knowledge on CPR among critical care nurses (n=125)

Level of Knowledge on CPR among critical care nurses		**n**	%
Good Knowledge	**19-24**	75	60
Poor Knowledge	**12-18**	50	40

4.4 Level of attitude on CPR among critical care nurses

Table 4.4.1

Response on attitude on CPR among critical care nurses(n=125)

Item		**Response, n (%)**				
		1	2	3	4	5
1.	I feel CPR is complex and time consuming	27(21.95)	34(27.64)	17(13.82)	30(24.39)	15(12.2)
2.	I feel CPR is energy consuming	9(7.2)	9(7.2)	18(14.4)	59(47.2)	30(24.0)
3.	I feel Mouth to mouth ventilation should be perform if mask is not available on a patient during CPR	12(9.76)	13(10.57)	33(26.83)	44(35.77)	21(17.07)
4.	I feel it is futile to perform CPR for elderly patient	54(43.9)	24(19.51)	36(29.27)	6(4.88)	3(2.44)
5.	I think Mouth to mouth ventilation should not be performed on opposite sex during CPR	9(7.2)	17(13.6)	36(28.8)	30(24.0)	33(26.4)
6.	CPR should not be practice if necessary equipment are not easily found	54(43.2)	44(35.2)	18(14.4)	9(7.2)	0(0)
7.	Inadequate supply of CPR equipment discourages most nurses from	3(2.4)	3(2.4)	32(25.6)	39(31.2)	48(38.4)